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At the request of the Soil Conservation Service, W. W. McLaughlin, Chief, Division of Irrigation, has been granted a year's leave of absence for the purpose of acting as technical adviser to the Chief of the Soil Conservation Service. Effective July 1, 1938, A. T. Mitchelson will assume responsibility for the work of the Division of Irrigation under the title "Acting Chief".

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W. D. Nichols, who has had charge of the drafting work in the Editorial and Information Division since the Bureau was organized, has retired effective July 1. He will be succeeded by M. W. Tilton. Mr. Nichols entered service in the Department as chief draftsman of Drainage Investigations, Office of Experiment Stations, in 1913.

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The Act appropriating funds for the Department of Agriculture for the fiscal year 1939 contains two new items for this Bureau as follows: Rural-electrification investigations, \$30,000, and fiber-flax investigations, \$25,000.

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During the past month M. R. Lewis studied supplementary irrigation possibilities in Nebraska and South Dakota. He visited the vicinity of Grand Island and Kearney, Nebr., in the Platte River Valley, where there is considerable shallow well pumping. The need for financing farmers who do not have wells was discussed with the local people. The possibility of connecting up many of the present wells with the local electric power districts was also considered. Deep well pumping in the area around Minden and Alliance, where there appears to be a good supply of water at depths of 100 to 150 feet, was discussed, but the economic feasibility of such pumping has not yet been demonstrated.

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In South Dakota the proposed large projects at Lower Brule and Buffalo Gap were examined, the former being on an Indian reservation, where it is proposed to dig a tunnel or a deep cut through a narrow strip of land on the Missouri River to develop power for irrigation pumping. The Buffalo Gap project is for storage.

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In both States consideration has been given to the possibility of providing irrigation under the terms of the Small Water Facilities Act. Numerous possible sites were noted but no action can be taken until the regulations governing the issue of funds have been worked out.

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Carl Rohwer spent the month in South Dakota on the supplemental irrigation project. He interviewed many State, county, and local officials concerning irrigation needs and proposed supplemental storage projects. In Perkins County, South Dakota, he surveyed canals and ran levels on several tracts to see whether they could be irrigated. Advice was given concerning the type of pumping equipment required and its installation. Considerable time was spent in the vicinity of Mobridge, Timber Lake, Eagle Butte, McLaughlin and Selbe, in starting projects that had been approved last year, and in laying out new projects and advising irrigation farmers.

R. L. Parshall reports that tests were made of the pyralin type buoyant turbine, mounted on a one-foot adjustable tube orifice meter. For an actual loss of head through the device of 0.016 foot, the turbine indicated a very consistent rate of rotation. A small buoyant turbine of thin sheet brass was made and tried out with success. The use of such a rotating turbine as an accessory to the adjustable tube meter will obviate the actual measurement of pressure heads and permit of calculating the rate of flow as a function of the rate of rotation of this turbine.

L. T. Jessup started the season's work at Bonners Ferry, Idaho, with the planting of crops and installation of evaporation tanks at the experiment station. He visited and examined 14 drainage districts in that vicinity, and found nearly all of them wetter than usual this year, with much pumping required.

In connection with the proposed studies of evaporation from Silver Lake, in the Mojave Desert of southern California, A. A. Young established an evaporation station there to compare losses from a temporary body of water with those from a Weather Bureau pan and from a screen-covered pan. Arrangements were made with the Los Angeles Bureau of Power and Light to have their employees obtain daily records. It is expected that measurements will be possible for the greater part of a year. There is neither inflow nor outflow nor seepage loss at the present time and lake levels change only as a result of evaporation. Temperatures are high and at times there is considerable wind movement so that high rates of loss are expected during the summer.

In order to develop data on evaporation from saline solutions, Mr. Young has undertaken a study at the Fullerton, Calif., station, embracing six two-foot diameter pans, containing sodium chloride solutions ranging up to 25 per cent salt.

In connection with the study of June-drop of fruit in relation to different irrigation treatments, Colin A. Taylor laid out plots on two orchards where difficulties have been experienced with set of fruit, one having loamy sand and the other rather heavy loam soil. To obtain data on overirrigation troubles particular attention will be paid to plots that are wetter than average.

J. C. Marr compiled the May 1 snow survey data and prepared the report. This year's Columbia River Basin and Missouri River Basin snow survey data

were tabulated for publication by the U. S. Weather Bureau. Mr. Marr states that so far this year the run-off of Columbia River has been in accordance with expectations based upon last winter's snow surveys. The run-off has been heavy but the peaks in most instances were lower than considered possible, owing to the fact that the water came in two freshets, approximately May 1 and 30, instead of as one. Forecasts of annual run-off for the year should be very close to the actual.

L. T. Jessup compiled snow survey data for the Upper Columbia Basin, including Canada. He also obtained from the office of the Washington Water and Power Co. at Spokane copies of their past snow survey records and summaries back to 1921.

George D. Clyde completed the regular monthly snow surveys on Mt. Logan, Utah, for May 1 and June 1 reports. He states that the watershed was well supplied with moisture and run-off moderate so that the stream flow should hold up well into the summer. Agricultural crops look the best of any season since 1922, and with prospects for a good water supply, the outlook is very promising.

R. A. Work established a snow course near the headwaters of Lost River, on Clear Lake reservoir watershed, in northern California, near the Oregon boundary, where observations will be made in cooperation with the U. S. Bureau of Reclamation. Mr. Work completed plans for distribution of subsistence supplies for next winter, which will be stored in shelter cabins on the various snow courses.

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: BRIEF BUT NOT TOO BRIEF :
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: Contributions from the divisions for use in the Monthly :
: News Letter should contain definite information and as many as :
: possible of the usual facts as to what, when, who, where, why, :
: and how. The statement that someone has just returned after :
: an absence of three weeks is only a starter. Where has he been: :
: what has he been doing, and what does he say about it (in brief)? :
: There isn't room in these few pages to be long winded, but :
: brevity can be carried too far. :
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Lewis A. Jones left Washington on June 16 for an extended trip through the Middle Western and Western States. He stopped in Chicago June 17 to consult with John G. Sutton on plans for operating the CCC drainage camps in the Central District through the next fiscal year.

From Chicago Mr. Jones will go to Denver, Salt Lake City and Los Angeles. He will attend the annual meeting of the A.S.A.E. at Asilomar June 27 to 30, inclusive. On his return trip to Washington Mr. Jones will

stop at Medicine Lake, South Dakota, for the annual inspection of the extensive concrete-alkali and acid testing work being conducted by the Bureau in cooperation with the University of Minnesota and the Minnesota State Department of Conservation. This work is under the direct supervision of D. G. Miller.

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After inspecting several drainage projects in the Central States Mr. Jones expects to return to Washington about July 20.

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During the past month instructions have been issued by the Director of the CCC, which establish the work program of the drainage camps as a definite part of the future Civilian Conservation Corps work activity.

The policy approved by the Director for CCC Drainage work, which is essentially the same as is now in effect, provides for undertaking repairs or reconstruction of existing drains of organized drainage districts or associations of a public or quasi-public nature. Projects are to take into consideration public benefit through demonstrational or health aspects, in addition to providing for the preservation, and conservation or improved productivity of agricultural lands. Districts or Associations must give evidence that governmental assistance is required, that substantial cooperation is provided by them in connection with the work, and that the completed improvement will be maintained by them for a minimum period of five years without further assistance of the camps. Projects must be of such character as to provide for experience and training of enrollees in procurement of future gainful employment.

The Central District reports the following accomplishments for its camps during May: 1,415,977 cubic yards of excavation and embankment, 3,865,410 square yards of clearing, 39,565 lineal feet of tile reconditioning, and 16,899 man-days used on structural and other miscellaneous work. A total of 74,552 man-days were used on project work during the month.

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Wallace Ashby visited the corn storage experiments at Urbana, Ill., and Ames, Iowa, and the wheat storage project at Hays, Kansas. He will attend the A.S.A.E. meeting at Asilomar and visit other stations before returning to Washington.

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J. R. McCalmont has been at Ames, Iowa, supervising the filling of some new steel corncribs recently erected there. Observations are being made as to the stability of the cribs. Willis R. Swanson who has been located at Ames on the corn storage work has moved to Hays, Kansas, where he will have charge of the wheat storage experiments this season.

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W. P. Green left Southern California on June 9 with a test shipment of oranges, arriving in New York about June 18. Tests were made on various methods of icing the cars, including using ice in the upper half of the bunkers only. The tests included measurement of temperatures and air velocities at various points in the loads.

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W. M. Hurst and George Stafford have completed the pyrethrum harvesting and drying experiments for this season. The experimental harvester performed in a satisfactory manner at Bell, Md., where tests were made to determine the effect of the number and position of bars on the stripping rollers for most efficient operation. Ten bars per roller set in staggered position gave the best results which approximated 93 per cent of the crop. A series of tests were made with laboratory equipment for determining the maximum drying air temperature that may be applied to pyrethrum flowers without injury. Chemical and physical analysis of the samples have not been completed.

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Field work on fertilizer placement experiments has been in progress during the past month with beans, cabbage, tomatoes and tobacco in the states of Michigan, New York, Pennsylvania and Maryland under the supervision of G. A. Cumings, L. G. Schoenleber and W. H. Redit. An experiment with cannery peas started early in the season in Michigan has shown that the fertilizer placed in the furrow with the seed reduced the stand of plants about 50 per cent. Present grain drills are equipped to apply the fertilizer in this manner.

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The season's work with sugar beets also indicates considerable delay of seed germination in certain experiments when the fertilizer is placed in the furrow with the seed as accomplished with most of the standard drills.

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W. R. Humphries made a trip to Geneva, N.Y. in connection with fertilizer experiments with wax beans. Work on the second part of the historic compilation on Tractor Development (from 1920 to date) is progressing, the first part having been completed.

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Mechanical thinning of sugar beets, which has been^{an} experimental operation only, has been tried by E. M. Mervine over a wide area in Western Nebraska and various places in Colorado on a more nearly commercial basis this year. The enthusiasm with which it is being received indicates that it may be a successful method.

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The manufacturers have shown an increasing interest in the laboratory test work at Auburn, Ala. During the latter part of June representatives of the Oliver Plow Company spent some time at the tillage laboratory testing plow bottoms which they have developed recently.

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A preliminary survey of the data on the disk test work where the tests were conducted in the Davidson Clay soil have shown that there is a sharp increase in draft as the speed increases up to 3 or 4 miles an hour depending on the angle at which the disk is set. Then there is a sharp decrease in draft between 5 and 6 miles per hour. It appears that at low speeds the soil clings to the disk and causes the draft to be quite large. When the speed is increased the disk clears itself and there is a corresponding drop in the force required to pull it forward. The factor of speed in connection with the disk studies appears to have some interesting points.

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Some shifting of the personnel of the Division of Mechanical Equipment is contemplated in July. W. M. Hurst, formerly in charge of the project entitled "Utilization and Cost of Farm Power and Machinery", is to be transferred to Oregon July 1 to take charge of the new project dealing with fiber flax investigations. His Oregon headquarters have not yet been selected. John W. Randolph, in charge of the cotton production machinery studies, will succeed Mr. Hurst with headquarters in Washington, D. C. R. M. Merrill, in charge of pest control machinery investigations, will head the cotton machinery and tillage studies at Auburn, Ala., and Frank Irons now associated with Mr. Merrill at Toledo will then take over the pest control work.

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The following publications were issued:

Farmers' Bulletin 1801 "Making Lime on the Farm" and
Circular 467 "Care and Repair of Cotton-Gin Brushes"

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